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SITE SUMMARY AND RECOMMENDATION

While compiling information pertaining to the Great Bay Plaza - Former Dry Cleaner (GBP) site, Region 2 SAT personnel discovered what is believed to be a separate plume of groundwater contamination. As part of the SIP effort for GBP, SAT reviewed sampling data for domestic wells in the area of Tuckerton and Little Egg Harbor in Ocean County, New Jersey. Two clusters of contaminated domestic wells were observed. One area of contamination is in the immediate vicinity of the GBP site and has been attributed to the GBP by the NJDEP during previous investigations. The other cluster, defined by seven domestic wells on Pineoak Drive and Madeline Lane in the Little Egg Harbor area of Ocean County, is the focus of this report. This second plume is called Stage Road Groundwater Plume.

The EPA directed Region 2 SAT to commence with an investigation of the Stage Road Groundwater Plume; including a reconnaissance of the area, and a review of available environmental records in an attempt to identify other potential sources of contamination. Region II SAT also performed a detailed study of the sample data collected from the domestic wells in the vicinity of the Stage Road Groundwater Plume area from the OCHD.

A total of seven domestic wells on Pineoak Drive and Madeline Lane were found to have contamination. The depths of these wells range from 62 to 100 feet below ground surface (bgs) with recorded water levels approximated between 7 and 15 feet bgs. Samples collected from 1988 to 1998 reveal the presence of the following chlorinated compounds: 1,2-DCA; methylene chloride; 1,1,1-TCA; 1,1-DCE; carbon tetrachloride; and PCE.

In a follow up visit to the OCHD, director Mr. Robert Ingenito revealed that it is OCHD policy to sample all newly installed wells. Mr. Ingenito also stated that it is OCHD policy to resample a well two additional times if any of the parameters exceeded New Jersey Drinking Water Standards; to either confirm or negate the actual presence of contamination. If both confirmatory samples fail to reveal contaminants, then the wells will not undergo any further sampling by the OCHD.

The analytical data collected from the domestic well located at Block 264, Lot 49 (5 Pineoak Drive), indicated 4.96 ug/L of 1,2-DCA in a sample collected on August 15, 1996. On August 28, 1996 and September 10, 1996, the well located at 5 Pineoak Drive was resampled, and in both instances there were no detections of 1,2-DCA. Subsequently, analytical data collected from the well revealed 7.73 ug/L of 1,2-DCA when sampled on July 14, 1998. On July 27 and 28 1998, the well was resampled, and again, in both instances, there were no detections of 1,2-DCA.

The analytical data of a sample collected on October 27, 1997, from the domestic well located at Block 264, Lot 14.01 (9 Madeline Lane), indicated 5.33 ug/L of methylene chloride. On November 13, and 14, 1997, the well at 9 Madeline Lane was resampled and in both instances there were no detections of methylene chloride.

A Well Abandonment Report was issued for Well No. 1 located at 9 Madeline Lane to the Bureau of Water Allocation citing the reason for abandonment as mercury. Mercury was not detected in the October 27, 1997 sample, nor was it analyzed for in the November 13 or November 14, 1997

samples.

The domestic well located at Block 264, Lot 38 (212 Pineoak Drive), revealed the presence of PCE at 5.96 ug/L in a sample collected on May 1, 1989. SAT was unable to obtain any information from OCHD on subsequent sampling of this well.

A review of available environmental records did not indicate any information relating to a possible source for the Stage Road Groundwater Plume. A search of federal, state, and local databases was conducted based on the central point of the contaminated wells and surrounding area,which revealed no information pertaining to a possible source. While conducting the investigation on the GBP, SAT and EPA personnel conducted a reconnaissance of the Stage Road Groundwater Plume area and identified a dry cleaner located approximately 0.4 miles southwest of the Stage Road Groundwater Plume area (Pineoak Drive and Madeline Lane). This dry cleaner was not identified in the available environmental records searched for this investigation.

Pineoak Drive and Madeline Lane are located off of Stage Road in a newly developed rural/commercial section of Little Egg Harbor in Ocean County. Giffords Mill Branch is located approximately 950 feet (0.18 mile) to the north/northeast of these streets leading toward the 15-Mile Surface Water Pathway: which runs for 0.5 mile into Pohtacong Lake; for approximately 0.5 mile into Tuckerton Creek; for approximately 2 miles into Tuckerton Cove; and then out into Little Egg Harbor for the remainder of the target distance limit.

A release of site-attributable contaminants either directly to surface water or via the groundwater pathway is not observed or suspected. Based on analytical data collected from the seven wells which comprise the Stage Road Groundwater Plume, it is unlikely that contamination observed in the wells is prolific enough to enter the surface water pathway via groundwater. Analytical data collected from the wells at both 9 Madeline Lane and 5 Pineoak Drive, which indicated VOC contamination, did not reveal any detections of the same contaminants upon subsequent sampling.

An HRS SUPERscreen (version 1.2) analysis of the Stage Road Groundwater Plume site was performed on the basis of contamination found in seven domestic wells on Pineoak Drive and Madeline Lane. Both aquifers were scored in the groundwater pathway based on targeted population; the upper aquifer produced the higher score. The upper aquifer was scored with an observed release by chemical analysis and the lower aquifer scored on potential. The groundwater pathway scored a 29.04.

The overall site score is **14.52**, which is below the score required for placement on the NPL (i.e., 28.5).

Based on an evaluation of the above conditions a recommendation of **NO FURTHER REMEDIAL ACTION PLANNED (NFRAP)** is given to the Stage Road Groundwater Plume site.

Session 5 - Stage Road Groundwater Plume -- Rev - Site Score: 14.52

DocRec Comments
-

Source 1 - Possible Groundwater Plume

Latitude ° ' " Longitude

Type: Other / N/A

Lowest Depth of Contamination (ft): 110.00

Is Tier A Adequately Determined? No
Is Tier B Adequately Determined? No

Description:
Location:

Source HWQ:

Constituents (Tier A) Assigned Value:
WasteStream (Tier B) Assigned Value:

Volume (Tier C): > 0 Assigned Value:
Volume Ref:

Area (Tier D): Assigned Value: 0.00
Area Ref:

Containment

GW	10	Evidence of hazardous substance migration from source area (i.e., source area includes source and any associated containment structures).
SWOL		
Gas	0	Source covered with essentially impermeable, regularly inspected, maintained cover.
Particulate		All situations except those specifically listed in HRS Table 6-9.

Evidence 1 - Block 264 Lot 38 5/1/1989

Purpose: Analytical Sample
Type: Sample

This is a RELEASE sample
Is Sample Filtered? No
Depth: 110.00
Lat: 0.00 Long: 0.00

CAS Number	Chemical Name	Quantity	Quantitation Limit	Qualfr	Man Made	Ubiq	Liquid	Neigh	Reference
000127-18-4	Tetrachloroethylene	5.96 ug/L	0.50 ug/L						

Evidence 2 - Block 264 Lot 49 8/15/1996

Purpose: Analytical Sample
Type: Sample

This is a RELEASE sample
Is Sample Filtered? No
Depth: 110.00
Lat: 0.00 Long: 0.00

CAS Number	Chemical Name	Quantity	Quantitation Limit	Qualfr	Man Made	Ubiq	Liquid	Neigh	Reference
000107-06-2	Dichloroethane, 1,2-	4.96 ug/L	0.50 ug/L						

Evidence 3 - Block 264 Lot 49 7/14/1998

Purpose: Analytical Sample
Type: Sample

This is a RELEASE sample
Is Sample Filtered? No
Depth: 110.00
Lat: 0.00 Long: 0.00

CAS Number	Chemical Name	Quantity	Quantitation Limit	Qualfr	Man Made	Ubiq	Liquid	Neigh	Reference
000107-06-2	Dichloroethane, 1,2-	7.73 ug/L	0.50 ug/L						

Evidence 4 - Block 264 Lot 14.01 10/27/1997

Purpose: Analytical Sample
Type: Sample

This is a RELEASE sample
Is Sample Filtered? No
Depth: 110.00
Lat: 0.00 Long: 0.00

CAS Number	Chemical Name	Quantity	Quantitation Limit	Qualfr	Man Made	Ubiq	Liquid	Neigh	Reference
000075-09-2	Methylene chloride	5.33 ug/L	0.50 ug/L						

Evidence 5 - Made-up Background 8/5/1998

Purpose: Analytical Sample
Type: Sample

This is a BACKGROUND sample
Is Sample Filtered? No
Depth: 110.00
Lat: 0.00 Long: 0.00

CAS Number	Chemical Name	Quantity	Quantitation Limit	Qualfr	Man Made	Ubiq	Liquid	Neigh	Reference
000075-09-2	Methylene chloride	0.05 ug/L	0.50 ug/L	U					
000107-06-2	Dichloroethane, 1,2-	0.50 ug/L	0.50 ug/L	U					
000127-18-4	Tetrachloroethylene	0.50 ug/L	0.50 ug/L	U					

Session 5 - Stage Road Groundwater Plume -- Rev - Site Score: 14.52 **Pathway Score:** 29.04

Net Precipitation: 6
Net Precip Ref:

Strata 1 - Kirkwood Cohansey Aquifer
This is a Non-Karst aquifer

Hydraulic Conductivity: 1.0E-004

Depth from 10.00 ft to 180.00 ft

Wellhead Protection Area Factor Value: -
Wellhead Reference:

Resources:
Resources Well Name:
Resources Reference:

Well Groups:

Aquifer type	Distance Range	Num of Wells	Population Served
NON-KARST	Greater than 1/2 to 1	166.00	416.00

Individual Wells:

Well 1 - Block 264 Lot 49 -- Drinking Well
Latitude: Longitude:
Screening interval from to 80.00 ft bgs
Distance from Source : 0.00
Population Served: 2.50

Sample 1 - Block 264 Lot 49 A 7/14/1998
Depth: 80.00 ft bgs
Type: RELEASE
Filtered? No
Reference:
Notes:

CAS_Number	Chemname	Quantity	Quantitation Limit	Qualfr	Dir Ob	Liq	ManMd	Ubq	Neigh	Reference
000107-06-2	Dichloroethane, 1,2-	7.73 ug/L	0.50 ug/L							

Sample 2 - Block 264 Lot 49 B 8/15/1996
Depth: 80.00 ft bgs
Type: RELEASE
Filtered? No
Reference:
Notes:

CAS_Number	Chemname	Quantity	Quantitation Limit	Qualfr	Dir Ob	Liq	ManMd	Ubq	Neigh	Reference
000107-06-2	Dichloroethane, 1,2-	4.96 ug/L	0.50 ug/L							

Sample 3 - Block 264 Lot 49 C 8/15/1996
Depth: 80.00 ft bgs
Type: RELEASE
Filtered? No
Reference:
Notes:

CAS_Number	Chemname	Quantity	Quantitation Limit	Qualfr	Dir Ob	Liq	ManMd	Ubq	Neigh	Reference
000075-09-2	Methylene chloride	1.23 ug/L	0.50 ug/L							

Well 2 - Block 264 Lot 14.01 -- Drinking Well

Latitude: Longitude:

Screening interval from to 80.00 ft bgs

Distance from Source : 0.00

Population Served: 2.50

Sample 1 - Block 264 Lot 14.01 A 10/27/1997

Depth: 80.00 ft bgs

Type: RELEASE

Filtered? No

Reference:

Notes:

CAS_Number	Chemname	Quantity	Quantitation Limit	Qualfr	Dir Ob	Liq	ManMd	Ubq	Neigh	Reference
000075-09-2	Methylene chloride	5.33 ug/L	0.50 ug/L							

Sample 2 - Block 264 Lot 14.01 B 11/13/1997

Depth: 80.00 ft bgs

Type: RELEASE

Filtered? No

Reference:

Notes:

CAS_Number	Chemname	Quantity	Quantitation Limit	Qualfr	Dir Ob	Liq	ManMd	Ubq	Neigh	Reference
000075-35-4	Dichloroethylene, 1,1-	0.28 ug/L	0.20 ug/L							

Sample 3 - Block 264 Lot 14.01 C 11/14/1997

Depth: 80.00 ft bgs

Type: RELEASE

Filtered? No

Reference:

Notes:

CAS_Number	Chemname	Quantity	Quantitation Limit	Qualfr	Dir Ob	Liq	ManMd	Ubq	Neigh	Reference
000071-55-6	Trichloroethane, 1,1,1-	0.62 ug/L	0.50 ug/L							

Well 3 - Block 264 Lot 48 -- Drinking Well

Latitude: Longitude:

Screening interval from to 75.00 ft bgs

Distance from Source : 0.00

Population Served: 2.50

Sample 1 - Block 264 Lot 48 6/17/1991

Depth: 75.00 ft bgs

Type: RELEASE

Filtered? No

Reference:

Notes:

CAS_Number	Chemname	Quantity	Quantitation Limit	Qualfr	Dir Ob	Liq	ManMd	Ubq	Neigh	Reference
000056-23-5	Carbon tetrachloride	1.22 ug/L	0.50 ug/L							
000075-35-4	Dichloroethylene, 1,1-	0.62 ug/L	0.50 ug/L							

Well 4 - Block 264 Lot 43 -- Drinking Well

Latitude: Longitude:

Screening interval from to 100.00 ft bgs

Distance from Source : 0.00

Population Served: 2.50

Sample 1 - Block 264 Lot 43 A 8/23/1991

Depth: 100.00 ft bgs
Type: RELEASE
Filtered? No
Reference:
Notes:

CAS_Number	Chemname	Quantity	Quantitation Limit	Qualfr	Dir Ob	Liq	ManMd	Ubq	Neigh	Reference
000071-55-6	Trichloroethane, 1,1,1-	9.74 ug/L	0.50 ug/L							
000075-35-4	Dichloroethylene, 1,1-	1.69 ug/L	0.50 ug/L							

Well 5 - Block 264 Lot 14.03 -- Drinking Well

Latitude: Longitude:
Screening interval from to 62.00 ft bgs
Distance from Source : 0.00
Population Served: 2.50

Sample 1 - Block 264 Lot 14.03 A 3/16/1990

Depth: 62.00 ft bgs
Type: RELEASE
Filtered? No
Reference:
Notes:

CAS_Number	Chemname	Quantity	Quantitation Limit	Qualfr	Dir Ob	Liq	ManMd	Ubq	Neigh	Reference
000079-01-6	Trichloroethylene	0.22 ug/L	0.20 ug/L							

Sample 2 - Block 264 Lot 14.03 B 1/24/1989

Depth: 62.00 ft bgs
Type: RELEASE
Filtered? No
Reference:
Notes:

CAS_Number	Chemname	Quantity	Quantitation Limit	Qualfr	Dir Ob	Liq	ManMd	Ubq	Neigh	Reference
000071-55-6	Trichloroethane, 1,1,1-	2.28 ug/L	0.50 ug/L							
000075-09-2	Methylene chloride	0.28 ug/L	0.20 ug/L							
000075-35-4	Dichloroethylene, 1,1-	0.36 ug/L	0.20 ug/L							

Well 6 - Block 264 Lot 38 -- Drinking Well

Latitude: Longitude:
Screening interval from to 80.00 ft bgs
Distance from Source : 0.00
Population Served: 2.50

Sample 1 - Lot 264 Block 38 A 5/1/1989

Depth: 80.00 ft bgs
Type: RELEASE
Filtered? No
Reference:
Notes:

CAS_Number	Chemname	Quantity	Quantitation Limit	Qualfr	Dir Ob	Liq	ManMd	Ubq	Neigh	Reference
000056-23-5	Carbon tetrachloride	0.22 ug/L	0.20 ug/L							
000075-09-2	Methylene chloride	0.07 ug/L	0.01 ug/L							
000075-35-4	Dichloroethylene, 1,1-	0.82 ug/L	0.50 ug/L							
000127-18-4	Tetrachloroethylene	5.96 ug/L	0.50 ug/L							

Well 7 - Block 264 Lot 14.04 -- Drinking Well

Latitude: Longitude:

Screening interval from to 70.00 ft bgs
Distance from Source : 0.00
Population Served: 2.50

Sample 1 - Block 264 Lot 14.04 A 8/16/1989

Depth: 70.00 ft bgs
Type: RELEASE
Filtered? No
Reference:
Notes:

CAS_Number	Chemname	Quantity	Quantitation Limit	Qualfr	Dir Ob	Liq	ManMd	Ubq	Neigh	Reference
000071-55-6	Trichloroethane, 1,1,1-	7.82 ug/L	0.50 ug/L							
000075-35-4	Dichloroethylene, 1,1-	1.67 ug/L	0.50 ug/L							

Well 8 - Background -- Drinking Well

Latitude: Longitude:
Screening interval from to 80.00 ft bgs
Distance from Source : 0.00
Population Served: 2.50

Sample 1 - Background 7/14/1998

Depth: 80.00 ft bgs
Type: BACKGROUND
Filtered? No
Reference:
Notes:

CAS_Number	Chemname	Quantity	Quantitation Limit	Qualfr	Dir Ob	Liq	ManMd	Ubq	Neigh	Reference
000056-23-5	Carbon tetrachloride	0.00 ug/L	ug/L	U.5						
000071-55-6	Trichloroethane, 1,1,1-	0.00 ug/L	ug/L	U.5						
000075-09-2	Methylene chloride	0.00 ug/L	ug/L	U.5						
000075-35-4	Dichloroethylene, 1,1-	0.00 ug/L	ug/L	U.5						
000079-01-6	Trichloroethylene	0.00 ug/L	ug/L	U.5						
000107-06-2	Dichloroethane, 1,2-	0.00 ug/L	ug/L	U.5						
000127-18-4	Tetrachloroethylene	0.00 ug/L	ug/L	U.5						

Strata 2 - Confining Bed

This strata is Non-Karst

Hydraulic Conductivity: 1.0E-006

Depth from 180.00 ft to 445.00 ft

Wellhead Protection Area Factor Value: -
Wellhead Reference:

Resources:
Resources Well Name:
Resources Reference:

Well Groups:

Aquifer type	Distance Range	Num of Wells	Population Served

Individual Wells:

Strata 3 - Atlantic City 800-Foot Sands

This is a Non-Karst aquifer

Hydraulic Conductivity: 1.0E-004

Depth from 445.00 ft to 560.00 ft

Wellhead Protection Area Factor Value: -
Wellhead Reference:

Resources:
Resources Well Name:
Resources Reference:

Well Groups:

Aquifer type	Distance Range	Num of Wells	Population Served

Individual Wells:

Well 1 - Well 2 -- Drinking Well
Latitude: Longitude:
Screening interval from to 489.00 ft MSL
Distance from Source : 1.17
Population Served: 3,813.00

Well 2 - Well 8 -- Drinking Well
Latitude: Longitude:
Screening interval from to 521.00 ft MSL
Distance from Source : 1.25
Population Served: 9,664.00